

**Amendments to the Claims:** This listing of claims will replace all prior versions, and listings, of claims in the application

**Listing of Claims:**

1. (Currently Amended) A radio communications system comprising:
  - (a) ~~an~~ a wireless intrinsic pavement transmitter and antenna material for conducting radio frequency signals;
  - (b) a first transmitter/receiver, at a first point along the intrinsic pavement transmitter and antenna material, and in communication with an end-user; and
  - (c) a second transmitter/receiver, at a second point along the intrinsic pavement transmitter and antenna material, and in communication with an end-user; wherein the intrinsic pavement transmitter and antenna material conducts radio frequency signals between the first and second transmitter/receiver entirely within the pavement transmitter and antenna material, and further wherein the only conductive coupling between the first transmitter/receiver and the second transmitter/receiver is the wireless intrinsic pavement transmitter and antenna material.
2. (Previously Presented) The radio communications system of claim 1, wherein the second transmitter/receiver is coupled to the end-user with a hard wire.
3. (Currently Amended) The radio communications system of claim 1, wherein the second transmitter/receiver is a conductive surface portion of the intrinsic pavement transmitter and antenna material.
4. (Currently Amended) The radio communications system of claim 1, wherein the first transmitter/receiver is adjacent to the intrinsic pavement transmitter and antenna material.
5. (Currently Amended) The radio communications system of claim 1, wherein the first transmitter/receiver is located within the intrinsic pavement transmitter and antenna material.

6. (Currently Amended) A wireless intrinsic pavement transmitter and antenna material, comprising a roadway, including:

- (a) a suitable wearing course material; and
- (b) an effective amount of radio frequency conductive material, sufficient to conduct radio frequency signals, between at least two locations within the pavement, such that the radio frequency signals are conducted entirely within the pavement transmitter and antenna material, and wherein the only conductive coupling between the at least two locations within the pavement is the wireless intrinsic pavement transmitter and antenna material.

7. (Currently Amended) The wireless intrinsic pavement transmitter and antenna material of claim 6, wherein the radio frequency conductive material is at least one member selected from a group consisting of: radio frequency transmittable polymers, metal shavings, metal dust and conductive carbons.

8. (Currently Amended) The wireless intrinsic pavement transmitter and antenna material of claim 7, wherein the conductive carbon is at least one member selected from a group consisting of carbon black, carbon fiber, graphite and coke breeze.

9. (Currently Amended) The wireless intrinsic pavement transmitter and antenna material of claim 7, wherein the radio frequency transmittable polymers include: polyacetylene, polyaniline, polypyrrole, polythiophenes, polyethylenedioxythiophene and poly(p-phenylene vinylene)s.

10. (Currently Amended) The wireless intrinsic pavement transmitter and antenna material of claim 7, wherein the metal shavings are at least one member selected from a group consisting of: iron, iron alloys, aluminum, aluminum alloys, copper and copper alloys.

11. (Currently Amended) The wireless intrinsic pavement transmitter and antenna material of claim 7, wherein the metal dust is at least one member selected from a group consisting of: iron, iron alloys, aluminum, aluminum alloys, copper and copper alloys.

12. (Currently Amended) The wireless intrinsic pavement transmitter and antenna material of claim 6, wherein the suitable wearing course material is at least one member selected from a group consisting of: asphalt and concrete.

13. (Currently Amended) The wireless intrinsic pavement transmitter and antenna material of claim 6, wherein the conductive material is intermixed with the wearing course material.

14. (Currently Amended) The wireless intrinsic pavement transmitter and antenna material of claim 6, wherein the conductive material and the wearing course material are substantially distinct layers.

15. (Currently Amended) The wireless intrinsic pavement transmitter and antenna material of claim 6, further comprising an insulating layer proximate the roadway.